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Financial Capability Guidebook

(U.S.) Environmental Protection Agency
Washington, DC

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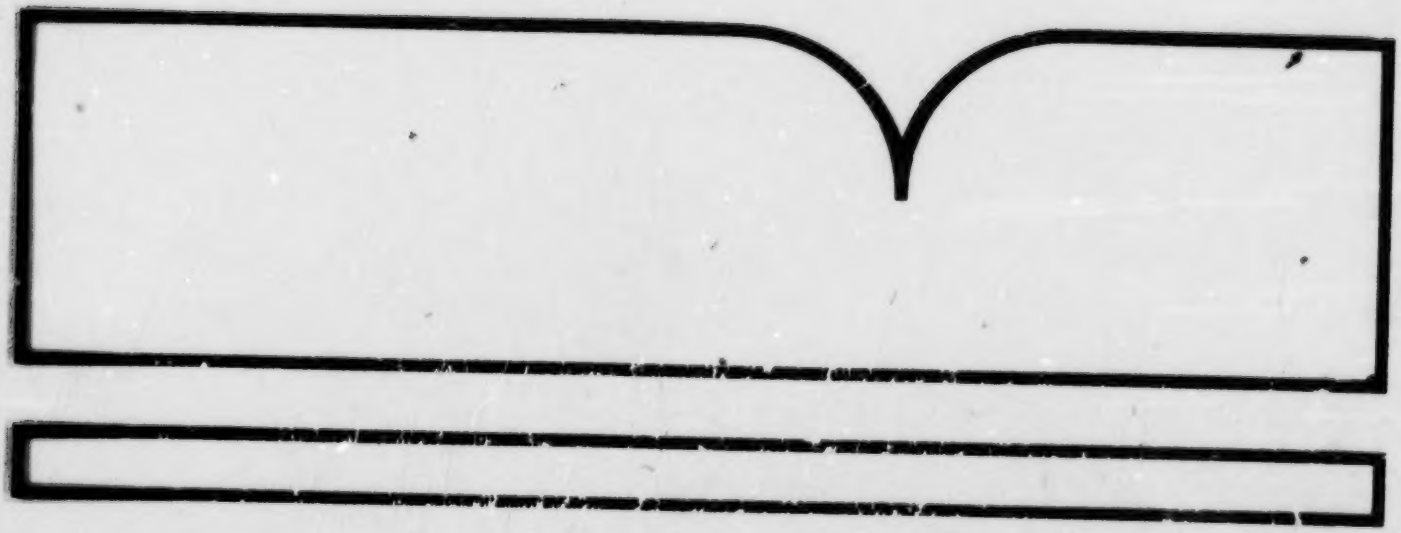

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This Guidebook will assist officials in your community in analyzing the financial impact of a proposed project on the community as a whole and on individual households.

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Washington, D.C.

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Prepared by the Government Finance Research Center and Peat, Marwick, Mitchell & Co.

This document is available to the public through the National Technical Information Service, Springfield, Virginia 22151.

FOREWARD

This guidebook has been developed for EPA's Office of Water Program Operations to describe and explain a suggested practical approach which may be used by a unit of government to prepare a demonstration of financial capability. The intent of this demonstration is to ensure adequate building, operation, maintenance, and replacement of a publicly owned treatment works. It is to be noted that the statements, conclusions, and recommendations contained herein are not to be construed as setting forth any legal or regulatory requirements beyond those set forth in the Federal Water Pollution Control Act, as amended (33 U.S.C. 466 et seq.) and the Construction Grant Regulation, 40 CFR, Part 35.

This publication was written by Catherine L. Spain, Hamilton Brown, and Pat Watt of the Government Finance Research Center and Larry J. Scully of Peat, Marwick, Mitchell & Co. EPA staff who reviewed it are Myron Tiemens, Paul Kraman, Jim Meek, Lee Pasarew, Betsy LaRoe, George Gray, Donald Kunkoski, Keith Dearth, George Ames, Connie Bosma, William Kramer, and Jerre Manarolla.

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CHAPTER I

INTRODUCTION

Purpose of the Guidebook

This Financial Capability Guidebook is designed to assist your community as it considers the commitment of public funds to construct wastewater facilities. This Guidebook has been written to suggest one way of conducting the analyses required by the Policy on Financial and Management Capability that applies to the Federal Construction Grants Program. Before applying for a Step 3 or 2+3 grant, your community must be certain it can demonstrate that it has the financial capability to pay for the initial capital investment and the cost of operations and maintenance (including equipment replacement).1/ This Guidebook will assist officials in your community in analyzing the financial impact of a proposed project on the community as a whole and on individual households.

The Policy requires applicants to address the following six major issues.

1. What is proposed in the facilities plan?
2. What roles and responsibilities will local governments have?
3. How much will the facilities cost at today's prices?
4. How will construction and operation of the facilities be financed?
5. What are the annual costs per household?
6. Can your community afford the proposed wastewater treatment facilities?

The Guidebook provides individual worksheets and instructions for these issue areas, a summary "Wastewater Facilities Financial Information Sheet" (Exhibit IV) which is designed to help your community demonstrate financial capability,

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1/ This demonstration is required by the Clean Water Act, as amended, as well as the revised Construction Grants regulations and the Policy on Financial and Management Capability. The applicant must submit, along with the Step 3 or 2+3 application, a letter certifying that it has analyzed the costs and financial impacts of the proposed facilities and that it has the capability to finance and manage construction and operation. The certification letter should be signed by an elected official or chief financial officer authorized to commit funding for the municipality.

and a "Supplemental Information Sheet" (Exhibit VI), which provides the basis for an in-depth evaluation of financial condition.1/

Issue 2 can be addressed by filling out Worksheet #1. Issue 3 is the focus of Worksheet #2. Issue 4 is explored using Worksheet #3. Issue 5 can be answered by completing Worksheet #4. These first four worksheets are in a format that permits the needed information to be easily transferred to the Financial Information Sheet. Finally, Issue 6 may be answered by proceeding through Worksheets #5 and #6 which allow for the development of eleven key financial indicators. These indicators may then be entered in the Supplemental Information Sheet. The instructions for each worksheet explain what information is needed, where it may be found, and what the results may indicate. The Financial Information Sheet and the Supplemental Information Sheet summarize the information on the worksheets and can provide the basis for an overall assessment of your community's financial capability.

While demonstration of financial capability is not required until the Step 3 or 2+3 application is made, the financial assessment should be built into the planning and design stages of any project for which Federal funding will be sought. Changes in economic growth, indebtedness, tax revenues, and other community characteristics may well influence critical choices as a project moves toward the construction phase. The time line in Exhibit I recommends the appropriate level of analysis for the various stages of project development. The preliminary financial analysis undertaken during the planning stage should identify for all parties involved the range of financial and administrative responsibilities in which they will share including estimates of construction, O,M&R, and household costs. The more detailed analysis during the design stage should refine the preliminary analysis and be used as a basis for developing the user charge system. The preliminary financial analysis should help your community select the most cost-effective as well as a technically appropriate solution for your water quality problems.

Guidebook Audience

While this Guidebook can be used by grant applicants from incorporated and unincorporated areas of any size, it is written

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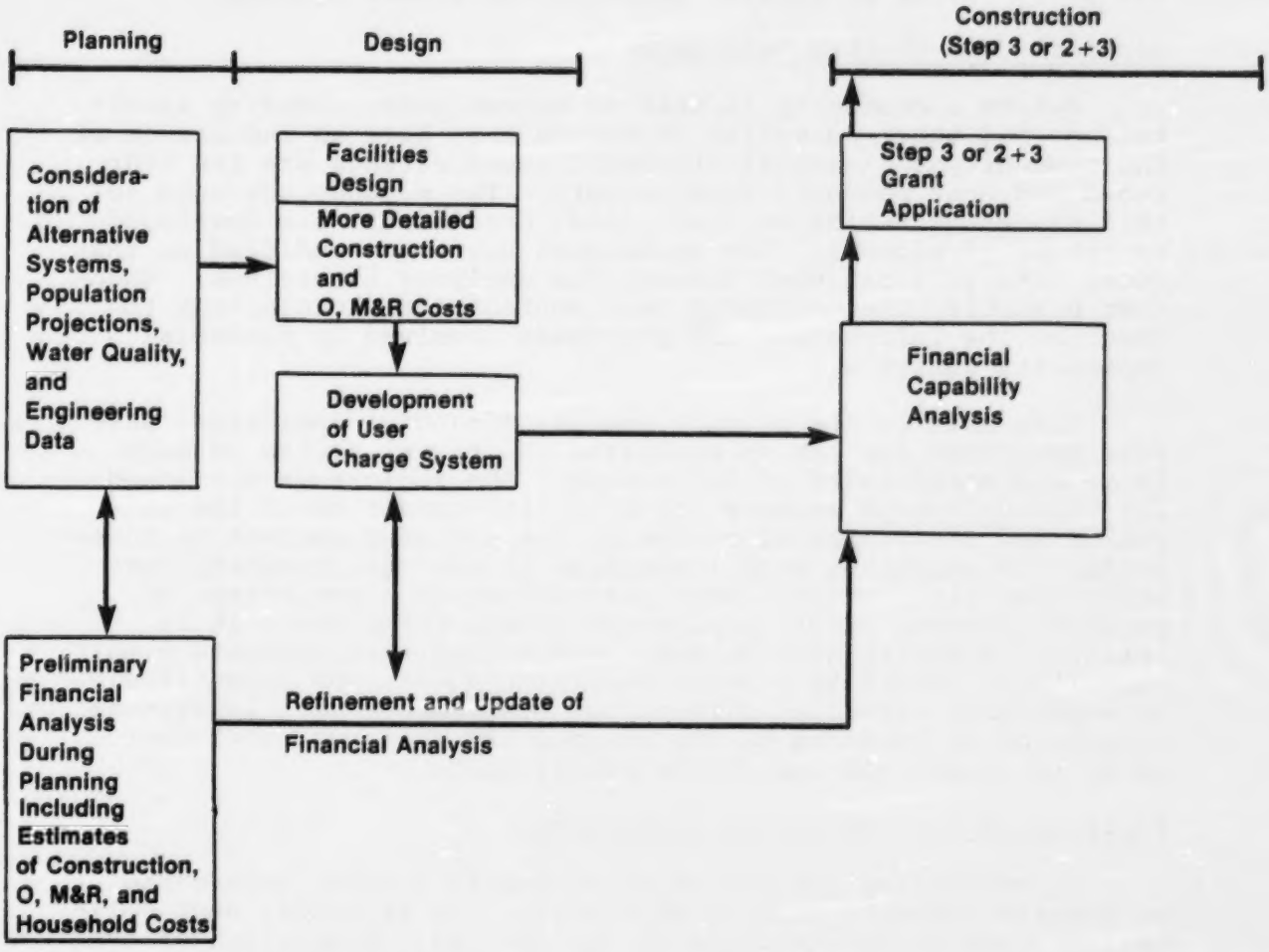
1/ In order to account for unique aspects of State laws governing local financing and institutional arrangements, all States are encouraged to develop specific guidance and procedures for communities to use to demonstrate financial capability. The grant applicant may use any format it choses to meet the requirement, including, as examples, a capital improvement plan, financial plan, a separate chapter in the facilities plan, or procedures as prescribed by a delegated State, provided that the information required is adequately addressed.

EXHIBIT I

INTEGRATION OF FINANCIAL CAPABILITY ANALYSIS INTO THE FACILITIES PLANNING PROCESS



especially to assist communities with populations of 10,000 or less, that:

- Provide service only within a single jurisdiction or sanitary district; or
- Represent an independent service area within a regional system.

Guidance is particularly important for this primary audience, since communities of this size account for nearly 70 percent of the total number of Federal construction grants awarded.

Approach Used in this Guidebook

Before a community is able to borrow money, lending institutions and other potential investors must have an indication of the community's financial strength. Bond ratings are the best known and most commonly used measure. The methodology used in this Guidebook relies on traditional credit analysis developed by rating services.1/ The techniques have been modified so that local officials can work through the analysis themselves. Whenever possible, the Guidebook uses nontechnical terminology to describe the information and processes involved in financial capability analysis.

Long used in the private sector, financial indicators have been developed for use in analyzing the fiscal health of both large and small units of government. The indicators developed for this Guidebook measure the financial condition of the community and the financial burden of the proposed project on households. In examining such indicators as the real property tax collection rate, overall debt outstanding as a percentage of personal income, annual population growth rate, etc., it is possible to distinguish between communities with adequate credit capacity to undertake a major capital project, and those likely to experience financial difficulty. The burden upon individual households is measured by the residential share of total wastewater treatment and facilities annual costs.

Application and Evaluation Procedures

In addressing the six major financial issues, information on diverse subjects such as population, tax revenues, debt obligations, and construction costs is required. Completion of the Financial Information Sheet and the Supplemental Information Sheet will likely require the involvement of one or more individuals. The participants should include all principal administrative, financial, engineering, and public works staff and advisors.

1/ Moody's and Standard and Poor's Investment Services are the best known rating agencies.

In order to demonstrate financial capability, Step 3 and 2+3 applicants must, at a minimum, submit the financial and institutional information presented in the Financial Information Sheet, along with an analysis of that information. The optional Supplemental Information Sheet permits a detailed analysis of financial condition.

Benchmarks have been provided on the Supplemental Information Sheet for assessing a community's relative financial strengths and weaknesses. These benchmarks have been developed through the statistical analysis of financial indicators in a broad range of communities.1/

When assessing this financial information, some communities may decide that the proposed treatment system is not financially feasible. A number of potentially less costly alternatives may be considered.2/

a) Restructuring of the financing may considerably reduce the assessments or the monthly carrying charges.

b) Upgrading, rehabilitation, and/or proper operation and maintenance of existing on-site systems should be considered.

c) Innovative or alternative wastewater treatment processes may be less centralized, less structured, less energy intensive, and sometimes simpler to operate Some examples are: septic systems, mounds, cluster systems, and overland flow. Another example is the use of alternative conveyance systems such as small diameter gravity and pressure sewers to carry septic tank effluent to better subsurface treatment and disposal areas. In many areas, similar systems can carry wastewater at a fraction of the capital cost and often at lower maintenance and operation costs than conventional gravity sewers and central treatment. These technologies, grouped together as Small Alternative Wastewater Systems (SAWS), are particularly appropriate for rural areas or for portions of larger communities with dispensed populations.

1/ These indicators do not take into account State laws such as those in California, affecting a community's ability to raise revenues. Therefore, State-specific standards may be more restrictive.

2/ EPA regulations (Section 35.2030) require sewered communities with a population of 10,000 or less to give considerations to appropriate low cost technologies -- facultative ponds, trickling filters, oxidation ditches, or overland flow land treatment -- and for unsewered communities of 10,000 or less, consideration must additionally be given to on-site systems.

d) Staged project development allows a community to finance the facilities over an extended time period rather than to finance the entire project all at once. (Legally imposed debt limits or large projected population increases may dictate staged development.) However, EPA regulations on phased and segmented projects may discourage this.) EPA regulations (Section 35.2108) should be consulted before communities decide to stage a project.

e) A community's financial constraints may require that the project be redesigned. Modifications might include smaller facilities, less sophisticated treatment processes to lower investment and O,M&R costs, or elements of both. Alternatives might include trickling filters or ponds.

A community that believes that water quality standards impose an unfair economic burden may wish to seek a modification of water quality permit standards. Under Section 302(b)(1) of the Water Pollution Control Act (PL 95-217), affected parties may petition for a change in effluent standards if they can demonstrate at a public hearing that "there is no reasonable relationship between the economic and social costs and benefits to be obtained...". By law, the State administrator may adjust the water quality standards if the costs are judged to be unreasonable.

Guidebook Organization

This chapter of the Financial Capability Guidebook introduces the reader to the purpose of the Guidebook and the major issues that will be addressed. Chapter II explains the approach to be used in completing the worksheets as well as some notes on locating and understanding information sources. Chapter III presents and explains the Wastewater Facilities Financial Information Sheet and the worksheets that evaluate the first four issue areas identified in the beginning of this chapter. In the last section of Chapter III, the final two issues are addressed by the Supplemental Information Sheet and the accompanying worksheets. Appendix A has been included to provide references to other resource materials on financial indicators, credit analysis, and financial capability. Definitions of the more technical terms used in the worksheets are found in Appendix B.

CHAPTER II

OVERVIEW OF APPROACH AND NOTES ON THE PREPARATION OF A FINANCIAL CAPABILITY ANALYSIS

Chapter I has introduced you to the purpose of the Guidebook and the methods you will use to analyze your community's financial capability. To assist you in filling out the worksheets as accurately and thoroughly as possible, this chapter provides an "Overview of the Approach" which is intended to provide an understanding of how one source of information will influence or be influenced by another. In addition the chapter contains some "Notes on the Preparation of a Financial Capability Analysis," which anticipate difficulties in locating or putting together necessary information for the worksheets.

An Overview of the Approach

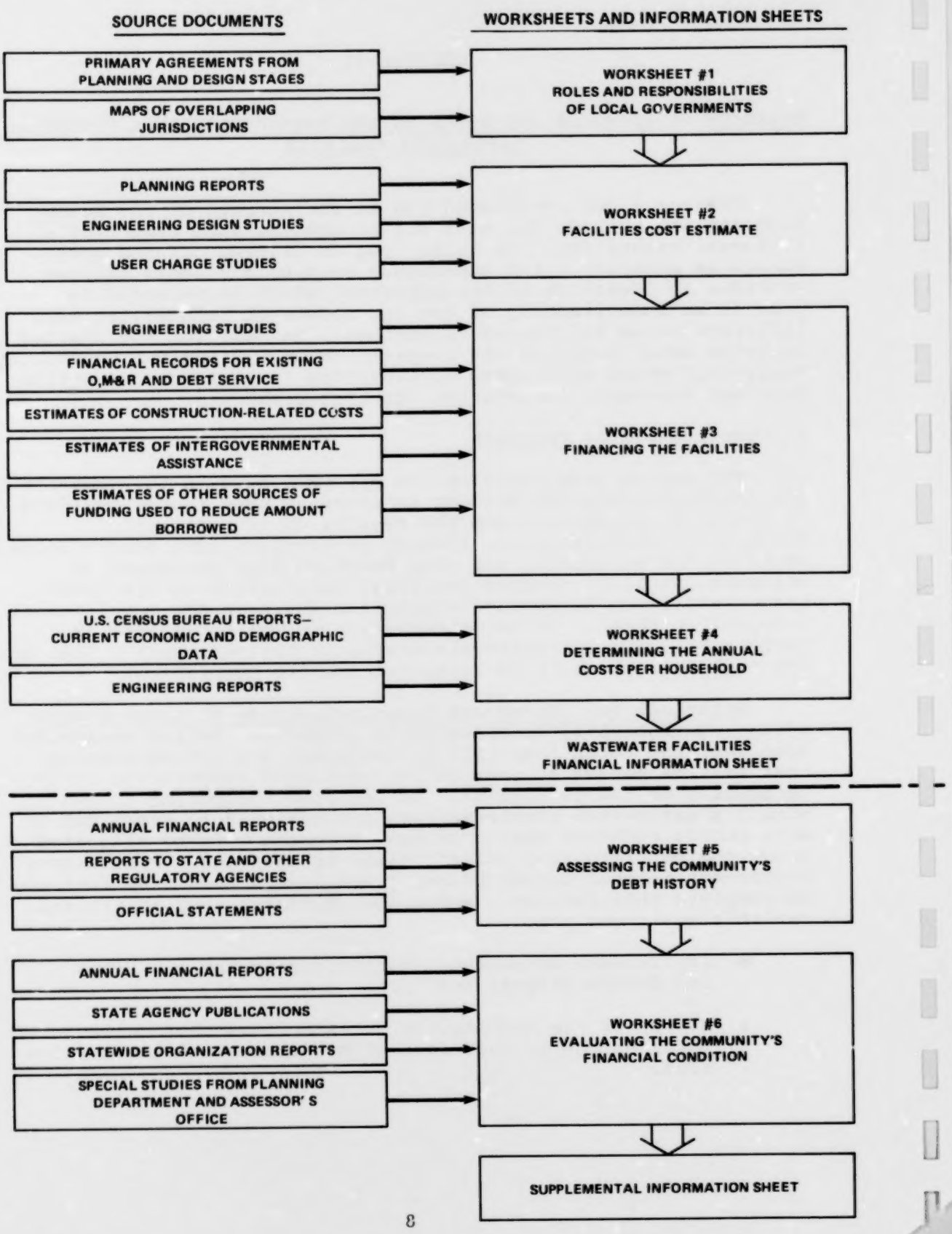
The key to understanding the approach used is to recognize the interrelationships between information used in the analysis of financial capability and the results of the analysis. Exhibit II illustrates the flow of information from source documents to the worksheets and then downward from worksheet to worksheet until it reaches its final destination on the Wastewater Facilities Financial Information Sheet or the Supplemental Information Sheet. As an introduction to the worksheets in Chapter III, a brief description of each follows, with a list of the major resources to be consulted for its completion.

Worksheet #1: Roles and Responsibilities of Local Governments. Worksheet #1 is intended to summarize the key management agencies, the roles they will be assigned, and the agreements that will be needed to provide for continued cooperation in the management of the facilities. An applicant proposing to construct a wastewater treatment facility designed to serve two or more public agencies must show how the costs will be allocated among the participating jurisdictions or agencies. Preliminary agreements reached during planning and design should be reviewed to complete this section. Among the documents used in filling out this worksheet are:

- Preliminary agreements reached during the planning and design stages; and
- Map(s) of the overlapping jurisdictions that collect taxes or charge user fees within the wastewater service area.

EXHIBIT II

FLOW OF INFORMATION FROM SOURCE DOCUMENTS TO WORKSHEETS


SOURCE DOCUMENTS
WORKSHEETS AND INFORMATION SHEETS
PRIMARY AGREEMENTS FROM PLANNING AND DESIGN STAGES
MAPS OF OVERLAPPING JURISDICTIONS
WORKSHEET #1 ROLES AND RESPONSIBILITIES OF LOCAL GOVERNMENTS
PLANNING REPORTS
ENGINEERING DESIGN STUDIES
USER CHARGE STUDIES
WORKSHEET #2 FACILITIES COST ESTIMATE
ENGINEERING STUDIES
FINANCIAL RECORDS FOR EXISTING O,M&R AND DEBT SERVICE
ESTIMATES OF CONSTRUCTION-RELATED COSTS
ESTIMATES OF INTERGOVERNMENTAL ASSISTANCE
ESTIMATES OF OTHER SOURCES OF FUNDING USED TO REDUCE AMOUNT BORROWED
WORKSHEET #3 FINANCING THE FACILITIES
U.S. CENSUS BUREAU REPORTS– CURRENT ECONOMIC AND DEMOGRAPHIC DATA
ENGINEERING REPORTS
WORKSHEET #4 DETERMINING THE ANNUAL COSTS PER HOUSEHOLD
WASTEWATER FACILITIES FINANCIAL INFORMATION SHEET
ANNUAL FINANCIAL REPORTS
REPORTS TO STATE AND OTHER REGULATORY AGENCIES
OFFICIAL STATEMENTS
WORKSHEET #5 ASSESSING THE COMMUNITY'S DEBT HISTORY
ANNUAL FINANCIAL REPORTS
STATE AGENCY PUBLICATIONS
STATEWIDE ORGANIZATION REPORTS
SPECIAL STUDIES FROM PLANNING DEPARTMENT AND ASSESSOR' S OFFICE
WORKSHEET #6 EVALUATING THE COMMUNITY'S FINANCIAL CONDITION
SUPPLEMENTAL INFORMATION SHEET

Worksheet #2: Facilities Cost Estimate. A realistic assessment of capability depends on accurate estimates of construction, operation, maintenance, and replacement costs for the proposed wastewater facilities. These estimates provide the basis for determining both the amount of local financing required and the user charges necessary to support the new facilities. Worksheet #2 summarizes the construction costs and operation, maintenance, and replacement costs for facilities. Estimates should be developed for all of the costs that will be incurred, including management, overhead, outside services, equipment replacement, and reserves necessary to construct betterments, expansion, and/or improvements required to accommodate future services. The major sources of information for Worksheet #2 are:

- Planning reports;
- Engineering design studies; and
- User charge studies.

Worksheet #3: Financing the Facilities. Worksheet #3 identifies the amount to be borrowed by the grantee and the methods of financing that amount. Total annual costs, which include operations, maintenance, replacement, and debt service for the new as well as existing facilities, are then calculated and a summary of the sources of funds for paying the annual costs is provided. Information for completing this worksheet comes from Worksheets #1 and #2 as well as:

- Engineering studies;
- Community financial records showing existing O,M&R and debt service costs;
- Cost estimates of construction-related costs obtained from outside experts;
- Estimates of construction costs to be paid by Federal and/or State governments;
- Estimates of other sources of funding that will be used to reduce the amount borrowed; and
- Method of financing the amount to be borrowed.

Worksheet #4: Determining the Annual Costs Per Household. The purpose of this worksheet is to determine the total annual costs per household for the community's wastewater treatment and facilities. The information required on this worksheet comes principally from Worksheets #2 and #3, but also relies on:

- U.S. Census Bureau reports on current economic and demographic data; and
- Engineering reports.

Worksheet #5: Assessing the Community's Debt History. The purpose of this worksheet is to profile and summarize the community's debt history. Information presented on this worksheet

is used for calculating the financial indicators found on Worksheet #6. To establish community debt levels before and after construction of the proposed facilities, Worksheet #5 will draw information from a number of the following sources:

- Annual financial reports;
- Reports submitted to State and other regulatory agencies;
- State agency publications; and
- Official statements.

Worksheet #6: Evaluating the Community's Financial Condition. The assessment of a community's financial condition involves the calculation and analysis of 11 key financial indicators. The indicators have been chosen because of their importance in explaining the difference in creditworthiness between a community with a strong credit rating and one that has a weak credit rating. Worksheet #6 draws primarily from the data on other worksheets but also requires information from:

- Annual reports;
- State agency publications;
- Reports prepared by statewide organizations; and
- Special studies prepared by the planning department and the assessor's office.

Working through the six worksheets will enable your community to evaluate its financial strengths and weaknesses. The transfer of information on a line-by-line basis from the worksheets to the Financial Information Sheet and the Supplemental Information Sheet represents the final steps on the flow chart.

Notes on the Preparation of a Financial Capability Analysis

Financial analysis of proposed wastewater facilities requires the collection of financial information, calculation of several key indicators, and analysis of the results obtained through the process. Because local governments differ significantly in their financial practices, some difficulties may arise in conducting this analysis. This section identifies a number of potential problems and suggests ways for coping with them. Among the issues addressed are the following:

- Obtaining the data;
- Estimating needed data;
- Knowing which number to use when there's a choice;
- Recognizing the effect of different accounting methods;
- Incorporating trend analysis into the financial capability assessment;

- Taking account of inflation and economic change;
- Considering overlapping debt; and
- Funding financial capability analysis.

While this list is not exhaustive, it addresses a number of common concerns in locating and understanding information sources. The remainder of this chapter is devoted to explaining these problems in more detail.

Obtaining the Data. Obtaining the data needed to complete the worksheets contained in this Guidebook may be complicated by a number of factors, such as:

- The size of the community;
- The type of information requested; and
- The timing of the request.

Small governments may not have the staff or detailed financial reports needed for assembling the data used in the financial analysis. However, if the jurisdiction has had a recent bond sale, most of the data needed will be found in the official statement.

Other sources of data that may be used in completing the worksheets are supporting engineering reports, reports prepared for State regulatory agencies, and data submitted to the U.S. Census Bureau. If data availability proves to be a problem, there may be staff people at the State level who could provide technical assistance to the community in collecting the data.

Estimating Needed Data. If no other source is available, the community might find county-wide data useful to make estimates of its own finances. Per capita values for key county data elements -- revenues, expenditures, etc. -- are calculated, then multiplied by the community's population to produce a reasonable estimate of the particular data element for the community.

Although the analysis will only be as reliable as the estimates, this solution to the data availability problem is better than the alternative -- no analysis. It is imperative that the assumptions and procedures used in estimating needed data be documented.

Knowing Which Number to Use When There's a Choice. Sometimes, judgment calls may be required to determine which number to use for a particular data element. A good example of this occurs in a resort community where seasonal fluctuations in

population occur. In choosing the best number, several factors must be considered:

- How will the seasonal population share the burden of paying for the proposed facilities?; and

- What impact does the increased population have on the local government's finances?

Depending on how the project will be financed, it might be appropriate to choose some number in-between the alternative values. As with other estimates, the reason for choosing one number over another should be disclosed.

Recognizing the Effect of Different Accounting Methods. The basis of accounting used by a jurisdiction will have an effect on the financial capability analysis. For our purposes, this means that interjurisdictional comparisons are not perfect. While we recognize that a problem exists, there is no simple solution. The recommendation is to go forward with the analysis and decision-making process because the impact will not materially affect the results.

Incorporating Trend Analysis into the Financial Capability Assessment. The indicators found on the Supplemental Information Sheet may show signs of strength or weakness for the community. In evaluating the results of the analysis, it may be helpful to analyze the data going back five years to discern any trends in the community's financial condition. For instance, the indicator values may be registering weak in the current year, but the community may be in the midst of an upswing or improvement in its financial condition. This is an important consideration for the local official who must make a decision about the feasibility of a project.

Taking Account of Inflation and Economic Change. Ideally, our analysis would take a projections approach and analyze the community's financial condition at a point in time in the future when the proposed facilities are operational by projecting income, population, total revenues, expenditures, debt outstanding, and other key data elements several -- even many -- years into the future. While this approach is preferred, it is not necessary. Instead, we determine if a community's current financial situation would enable it to assume the future costs of the proposed wastewater treatment facilities (expressed in today's prices), thus getting around the need to forecast key values.

It may be argued that this approach is too simplistic. This shortcoming can be overcome through a series of sensitivity analyses which assess how the key indicators would change under

differing assumptions. For example, if there is concern about the impact of inflation on the cost of O,M&R, the cost estimates and other variables that are sensitive to inflationary pressures can be adjusted upward and the analysis can be repeated to determine how household burden changes.

Considering Overlapping Debt. The proportionate share of tax-supported (general obligation) debt of local governments whose boundaries overlap the community is a critical component of the financial analysis.1/ Data on the outstanding debt of such jurisdictions may not be readily available unless a recent official statement for a bond issue has been prepared. If it is necessary to estimate these data, the approach used in the following example is recommended.

Assume four jurisdictions overlap Community A (a county, school district, library district, and park district), and each has incurred debt. Steps A through E, which follow, establish the process for identifying the total overlapping debt to be borne by Community A's property owners. Exhibit III gives a suggested format for the analysis. The "other" row reminds the reader that there may be many more overlapping jurisdictions.

A. Identify each of Community A's overlapping jurisdictions that have incurred debt. (If not known, a list of these jurisdictions should be available through the State or the community assessor's office).

B. Identify the total amount of tax-supported outstanding debt for each of the overlapping jurisdictions (less sinking funds).

C. Identify the percentage of each overlapping jurisdiction's outstanding debt charged to persons or property in Community A. The percentage is based on the estimated full market value of real property of the respective jurisdictions in Community A.

D. Multiply the total outstanding debt of each overlapping jurisdiction by the percentage identified for Community A (Column B x C).

E. Add the figures in Column D to arrive at total overlapping debt for Community A.

1/ Overlapping debt is defined as the proportionate share of debts of local governmental units located wholly or in part within the limits of the reporting government which must be borne by persons or property within each governmental unit.

EXHIBIT III

OVERLAPPING DEBT IN COMMUNITY "A"

(A) Overlapping Jurisdictions	(B) Outstanding Debt (less Sinking Fund)	(C) % Chargeable to Community "A"	(D) Outstanding Debt Attributable to Community "A"
County	$10,500,000	25%	$ 2,625,000
School District	16,800,000	95%	15,960,000
Library District	3,000,000	100%	3,000,000
Park District	4,000,000	50%	2,000,000
Other			
		(E) Total Overlapping Debt	$23,585,000

Funding Financial Capability Analysis. While the Guidebook is written for use by State and local staff persons, completion of the analysis may possibly involve a financial consultant or engineer. When measured against the total cost of a project, financial capability analysis is a sound investment because it can be very helpful.

Communities that have an ongoing or completed Step 1 facilities plan or Step 2 design may amend their Step 1 or 2 grant to include these costs. Other communities can expect to pay the cost of this analysis along with other planning and design costs. The Clean Water Act, however, provides for an allowance to defray costs incurred prior to Step 3 and 2+3 applications. There is also the possibility for an advance of this allowance for small communities selected by the State.

CHAPTER III

FINANCIAL CAPABILITY ANALYSIS WORKSHEETS AND INSTRUCTIONS

Your community's financial capability concerns all parties who will pay a portion of the cost of the new wastewater facilities. Elected officials, finance officers, public works department heads, citizens, and lending institutions would view the issue from different perspectives. An adequate response must address the concerns of each of these groups.

In order to assist your community in evaluating its financial capability this chapter provides:

- Six Worksheets, with line by line instruction, which cover roles and responsibilities, financing, facilities cost, household costs, community debt and financial conditions. (Worksheets #1-4 are on pages 23-48 and Worksheets #5 and 6 are on pages 51-65).

- A Supplemental Information Sheet (page 49) which covers the community's debt history and financial condition. The Supplemental Information Sheet can be completed using the information developed on worksheets #5 and #6.

- A three page set of Wastewater Facilities Financial Information sheets (pages 19-21) which provide space to answer the six basic questions asked in the "Policy on Financial and Management Capability." These three summary sheets can be completed by transferring the figures developed on worksheets #1-4 and the Supplemental Information Sheet to the appropriate lines on the Financial Information Sheet.

Evaluating Results of the Analysis

As stated earlier, this Guidebook does not provide a fully developed credit analysis, but rather a brief, reliable basis for evaluating your community's ability to assume new debt. The information provides assistance but not the answer to whether your community should undertake the proposed project. Guidance documents are not intended to replace local judgment.

Throughout the Guidebook, we have stressed the importance of evaluating the results, whether positive or negative, in light of your community's particular circumstances. For example, a community that is dependent on a single industry with an uncertain future must look beyond the predominantly positive indicators that may exist in the present.

The purpose of guidance is "to point in the right direction." Strong indicators should encourage your community to undertake the project as planned; weak indicators should caution against it, with particular attention paid to reviewing less costly alternatives or restructuring the financing. Whatever choice your community makes, however, it should benefit from a systematic analysis of financial capability as the project progresses through planning, design, and construction.

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EXHIBIT IV

Wastewater Facilities Financial Information Sheet

Applicant

Name_____

Address_____

City_____ Zip_____

Contact_____

Telephone _____

What Is Proposed In The Facilities Plan?

- The proposed facilities will be: (check more than one if applicable) ☐ New ☐ An expansion ☐ An upgrade

- If treatment facilities are proposed, do they feature low O+M Cost Technology such as ponds, trickling filters, overland flow? If yes, please identify. ☐ Yes ☐ No

_____

_____

_____

- The facilities will serve: ☐ Existing Population on Sewers ☐ Existing Area Served by On-Site Systems ☐ Existing Industries ☐ Anticipated Growth

  Indicate the approximate percentage of the plant's capacity that will be allocated to each. _____% _____% _____% _____%

- Entities to be served: ☐ County ☐ Municipality ☐ Sewer district ☐ Industry

- Design population _____ (Year _____)

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EXHIBIT IV (Continued)

Wastewater Facilities Financial Information Sheet

What Roles And Responsibilities Will Local Governments Have?

Cooperative arrangements between various entities may be required to meet the management needs of wastewater treatment facilities.

				from line
• What agency will:	☐ Own the facilities	☐ Operate	☐ Finance	(101)
• Will there be financial contributions by:	☐ Other agencies	☐ Industry		(103)
• Have participating agencies been asked to review:	☐ Wastewater facilities plan	☐ Population projections	☐ Service area boundaries	(105)
• Have agreements been sought between the operating agency and:	☐ Participating agencies	☐ Other agencies	☐ Industry	(107)

How Much Will The Facilities Cost At Today's Prices?

The following figures are estimated costs for construction, operation, and maintenance of the proposed facilities. Dollar amounts are uninflated and reflect today's prices.

A. Construction costs estimate

	from line
• Wastewater treatment plant	(201)
• Pump stations	(202)
• Interceptor sewers	(203)
• Collection sewers	(204)
• On-site systems	(205)
• Land acquisition	(206)
• Other	(207)
• Total construction costs	(208)

B. Estimated annual operation, maintenance, and replacement (O,M + R) costs for the proposed facilities

		from line
• Labor	per year	(209)
• Utilities	per year	(210)
• Materials	per year	(211)
• Outside services	per year	(212)
• Misc. expenses	per year	(213)
• Equipment replacement	per year	(214)
• Total operation, maintenance and replacement costs	per year	(215)

How Will The Facilities Be Financed?

A. Amount to be borrowed

	from line
• Grantee share of construction costs	(309)
• Construction-related costs	(315)
• Grantee contributions	(320)
• Amount to be borrowed	(321)

B. Methods of financing the amount to be borrowed

Financing method	Amount borrowed	Interest rate	Term of maturity	Annual debt service payment	from line
General obligation bond					(322)
Revenue bond					(323)
Loan					(324)
Total					(325)

C. Total estimated annual wastewater facilities costs

	from line
• Net existing O,M + R	(328)
• Existing annual debt service	(329)
• O,M + R for proposed facilities	(330)
• Debt service for proposed facilities	(331)
• Total estimated annual wastewater facilities costs	(332)

D. Sources of funding for total annual wastewater facilities costs

	from line
• Sewer service charges	(333)
• Surcharge	(334)
• Special assessments and fees	
— connection fee	(335)
— betterment assessments	(336)
— other	(337)
• Transfers from other funds	(338)
• Other	(339)
• Total funding	(340)

EXHIBIT IV (Continued)

Wastewater Facilities Financial Information Sheet

What Are The Annual Costs Per Household?

		from line
• Total estimated annual wastewater facilities charges	_____	(400)
• Nonresidential share of total annual charges	_____	(401)
• Residential share of total annual charges	_____	(402)
• Number of households	_____	(403)
• Annual costs per household for		
— wastewater collection and treatment	_____	(404)
— other	_____	(405)

		from line
• Total annual costs per household	_____	(406)

Can Your Community Afford The Proposed Wastewater Treatment Facilities?

The answers to the preceding questions will provide useful information regarding the cost of the proposed facility, how it will be financed, and what this means in terms of cost to the typical household user. In order to evaluate effectively the true impact of the proposed project, however, this information must be viewed within the overall context of the community's financial capability, which is the measure of its existing financial condition, financial resources, legal constraints, and local public policy that balances among competing financial needs.

Listed below is a series of questions that will provide information about your community's current financial condition as well as its ability to pay for the local share of the proposed facility. The answers to these questions will help ensure that the community fully understands the cumulative financial impacts of constructing the proposed facility on top of its previous financial commitments.

1. Does your community plan to rely on new population growth to help finance the proposed treatment system and to meet other local obligations? If so, are the population projections realistic?

2. Over the past five years, what has happened to your community's taxable assessed property valuation relative to its population?

3. Does your community rely on other sources of revenue? If so, are there discernible trends for these revenues?

4. What is the total current outstanding indebtedness of your community?

5. How much additional debt can your community legally incur?

6. What is your community's bond rating? Has it changed within the last two years?

If the information above indicates that the proposed system's cost impacts on the individual households and/or the community are too high, the community should consider other methods of financing to mitigate financial impacts, reevaluate project alternatives and scope, or consider staging implementation to spread out financing to future users.

PURPOSE OF WORKSHEET #1

Worksheet #1 is intended to summarize the key management agencies, the roles they will be assigned, and the agreements that will be needed to provide for continued cooperation in the management of the facilities. Preliminary agreements reached during planning and design should be reviewed to complete this section.

Worksheet #1 should be completed whether you are a small town building your own facility or are a part of a group of jurisdictions or agencies involved in a regional system. If you are proposing to construct a wastewater treatment facility designed to serve two or more public agencies or jurisdictions you must provide an executed intermunicipal service agreement which shows, at a minimum, how the cost will be allocated among the parties, the formula by which costs are allocated, and the manner in which the cost allocation system will be administered.1/ This requirement may be waived by the Regional Administrator or the delegated State if you already have an agreement or ongoing service relationship and if the supplier agency is financially strong enough to continue the project if one or more of the customer agencies fails to participate (40 CFR 35.2107).

The intermunicipal service agreement serves as the legal, contractual basis for implementation of the wastewater treatment system, and guarantees future commitments. Although it will guard against reneging or unilateral actions by participants, it should also serve as a basis for a sound working relationship. Its institutional provisions should provide for a management framework, and should assign roles and responsibilities for management and operation of the system. In addition to its cost allocation information, the intermunicipal service agreement should also include:

1. Delineation of sewer service areas of regional participants (include a map);

1/ The regional cost basis consists of facilities (including equipment, sewage treatment facilities, and interceptors, etc.) and services (administrative, managerial, legal, etc.) which are to be shared by two or more jurisdictions and are, therefore, eligible for regional cost allocation. An auditable cost accounting system is usually maintained by the supplier agency; it defines the regional cost basis and is included in service agreements. Exhibit V is a model for determining regional cost basis.

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EXHIBIT V

MODEL FOR IDENTIFICATION OF REGIONAL COST BASIS

SYSTEM-WIDE CAPITAL COST BASIS

- **Proposed Regional Facilities:**
  Local share of capital cost of new components proposed in regional facilities plan.

- **Contributed Capital Facilities:**
  Value of existing facilities which are to be incorporated into regional system (based on an estimate of the replacement value, fair market value, or undepreciated value of the component).

  Estimated value of land on which existing contributed facilities are located (calculated at fair market value or other acceptable method).

- **Periodic Capital Requirements:**
  Additions, expansion, or replacement of equipment or system components (not included in initial facilities plan), as required by regional use.

SYSTEM-WIDE OPERATIONS AND MAINTENANCE COST BASIS

- **Direct Costs for Regional System O & M:**
  Annual costs directly attributable to regional operations and maintenance, identified in appropriate budget categories of the regional system operator.

- **Administrative Costs for Regional System:**
  Costs associated with management, administration, and overhead of the regional operator. For example, if a municipality operates the system, appropriate portions of administrative time must be identified in the municipal budget.

SOURCE: Financial Planning for Wastewater Facilities: A Guide for Wyoming Local Officials, Part 3, "Regional Wastewater Facilities: Cost Sharing, Financing, and Intergovernmental Relations," (Wyoming Department of Environmental Quality), page 16.

EXHIBIT IV (Continued)

Wastewater Facilities Financial Information Sheet

What Are The Annual Costs Per Household?

- Total estimated annual wastewater facilities charges _____ from line (400)
- Nonresidential share of total annual charges _____ (401)
- Residential share of total annual charges _____ (402)
- Number of households _____ (403)
- Annual costs per household for
  - — wastewater collection and treatment _____ (404)
  - — other _____ (405)
- Total annual costs per household _____ from line (406)

Can Your Community Afford The Proposed Wastewater Treatment Facilities?

The answers to the preceding questions will provide useful information regarding the cost of the proposed facility, how it will be financed, and what this means in terms of cost to the typical household user. In order to evaluate effectively the true impact of the proposed project, however, this information must be viewed within the overall context of the community's financial capability, which is the measure of its existing financial condition, financial resources, legal constraints, and local public policy that balances among competing financial needs.

Listed below is a series of questions that will provide information about your community's current financial condition as well as its ability to pay for the local share of the proposed facility. The answers to these questions will help ensure that the community fully understands the cumulative financial impacts of constructing the proposed facility on top of its previous financial commitments. It is important to recognize, however, that the community's policy regarding such things as taxation, sewer extensions, and allocation of resources among competing local needs will also bear upon its ability to finance and pay for the proposed treatment facility.

1. Does your community plan to rely on new population growth to help finance the proposed treatment system and to meet other local obligations? If so, are the population projections realistic?

2. Over the past five years, what has happened to your community's taxable assessed property valuation relative to its population?

3. Does your community rely on other sources of revenue? If so, are there discernible trends for these revenues?

4. What is the total current outstanding indebtedness of your community?

5. How much additional debt can your community legally incur?

6. What is your community's bond rating? Has it changed within the last two years?

7. Is your community contemplating any commitments for other major projects? If your community proceeds with the proposed wastewater treatment facility, can it still afford these other capital improvements?

PURPOSE OF WORKSHEET #1

Worksheet #1 is intended to summarize the key management agencies, the roles they will be assigned, and the agreements that will be needed to provide for continued cooperation in the management of the facilities. Preliminary agreements reached during planning and design should be reviewed to complete this section.

Worksheet #1 should be completed whether you are a small town building your own facility or are a part of a group of jurisdictions or agencies involved in a regional system. If you are proposing to construct a wastewater treatment facility designed to serve two or more public agencies or jurisdictions you must provide an executed intermunicipal service agreement which shows, at a minimum, how the cost will be allocated among the parties, the formula by which costs are allocated, and the manner in which the cost allocation system will be administered.1/ This requirement may be waived by the Regional Administrator or the delegated State if you already have an agreement or ongoing service relationship and if the supplier agency is financially strong enough to continue the project if one or more of the customer agencies fails to participate (40 CFR 35.2107).

The intermunicipal service agreement serves as the legal, contractual basis for implementation of the wastewater treatment system, and guarantees future commitments. Although it will guard against reneging or unilateral actions by participants, it should also serve as a basis for a sound working relationship. Its institutional provisions should provide for a management framework, and should assign roles and responsibilities for management and operation of the system. In addition to its cost allocation information, the intermunicipal service agreement should also include:

1. Delineation of sewer service areas of regional participants (include a map);

1/ The regional cost basis consists of facilities (including equipment, sewage treatment facilities, and interceptors, etc.) and services (administrative, managerial, legal, etc.) which are to be shared by two or more jurisdictions and are, therefore, eligible for regional cost allocation. An auditable cost accounting system is usually maintained by the supplier agency; it defines the regional cost basis and is included in service agreements. Exhibit V is a model for determining regional cost basis.

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EXHIBIT V

MODEL FOR IDENTIFICATION OF REGIONAL COST BASIS

SYSTEM-WIDE CAPITAL COST BASIS

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  Local share of capital cost of new components proposed in regional facilities plan.

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  Estimated value of land on which existing contributed facilities are located (calculated at fair market value or other acceptable method).

- **Periodic Capital Requirements:**
  Additions, expansion, or replacement of equipment or system components (not included in initial facilities plan), as required by regional use.

SYSTEM-WIDE OPERATIONS AND MAINTENANCE COST BASIS

- **Direct Costs for Regional System O & M:**
  Annual costs directly attributable to regional operations and maintenance, identified in appropriate budget categories of the regional system operator.

- **Administrative Costs for Regional System:**
  Costs associated with management, administration, and overhead of the regional operator. For example, if a municipality operates the system, appropriate portions of administrative time must be identified in the municipal budget.

SOURCE: Financial Planning for Wastewater Facilities: A Guide for Wyoming Local Officials, Part 3, "Regional Wastewater Facilities: Cost Sharing, Financing, and Intergovernmental Relations," (Wyoming Department of Environmental Quality), page 16.

2. Guarantee of future flow capacity and provision for annual adjustment and sale of capacity between participants;

3. Provision for cost-accounting system to assure auditability of regional operations and costs; and

4. Establishment of an oversight or advisory committee to monitor financial aspects and policy-making on a continuing basis.

Instructions for Worksheet #1

Line 101 Identify the participating agencies that will own, operate, and/or finance the facilities.

Line 102 Indicate if the agencies have any prior experience in performing their assigned roles.

Lines 103 - 104 Prior to the construction of the facilities participating agencies should identify the type and amount of their contribution. For example, Community "A" will provide $1,000,000 for the construction of the facilities from its general fund and bond anticipation notes, while the sanitary district will provide the land. In addition, the Community will be responsible for a percentage of the long-term debt, and a special Housing and Urban Development fund will finance a portion of the sewer collection system costs.

Lines 105- 106 Continued planning by technical, legal, and political representatives from participating agencies is necessary to maintain an understanding of each agency's role and financial responsibility. In addition, the planning of wastewater facilities is closely tied to land use planning and other independent activities of the participating jurisdictions. Plan reviews can aid in coordinating other related local activities. Check the items to be reviewed and describe the forum for review.

Lines 107 - 108 A number of intergovernmental agreements may be necessary to maintain a well organized management system. The agreements may cover ownership, financing, excess capacity allocation, operating cost allocations, sewer use ordinances, and liability and legal arrangements. Identify the participating agencies, the type of agreements involved, and existing agreements that have been drafted in the planning and design steps or are in effect.

WHAT ROLES AND RESPONSIBILITIES WILL LOCAL GOVERNMENTS HAVE?

Worksheet #1

A. WHAT AGENCY WILL:	☐ Own the Facilities	☐ Operate The Facilities	☐ Finance The Facilities	(101)
• Does The Agency Have Experience In Performing The Function?	☐ Yes ☐ No	☐ Yes ☐ No	☐ Yes ☐ No	(102)
B. WILL THERE BE A FINANCIAL CONTRIBUTION BY:	☐ Other Agencies	☐ Industry		(103)
• Amount Expected?	$_____	$_____		(104)
C. WILL THE PARTICIPATING AGENCIES BE ASKED TO REVIEW:	☐ Wastewater Facilities Plan	☐ Population Projections	☐ Service Area Boundaries	(105)
• What Will Be The Forum For The Review (i.e, Meeting, Comments On Draft Documents)?	_____	_____	_____	(106)
D. WILL AGREEMENTS BE SOUGHT BETWEEN THE OPERATING AGENCY AND:	☐ Participating Agencies	☐ Other Agencies	☐ Industry	(107)
• Describe The Type Of Agreement Required (i.e., Ordinance Approval, Cost Allocation, Excess Capacity).	_____	_____	_____	(108)

FACILITIES COST ESTIMATE

[redacted]

PURPOSE OF WORKSHEET #2

A realistic assessment of capability depends on accurate estimates of construction, operations, maintenance, and replacement costs for the proposed wastewater facilities. These estimates provide the basis for determining both the amount of local financing required and the user costs necessary to support the new facilities.

Worksheet #2 summarizes the construction costs (Section A) and operations, maintenance, and replacement costs for the facilities (Section B). Estimates should be developed for all of the costs that will be incurred, including management, overhead, outside services, and equipment replacement.

NOTE: The costs should be for the completed system including all its segments and phases.1/

Instructions for Section A

In Section A provide a current estimate of the construction costs of the facilities by component. (Information is needed in this format because the Federal/State share for each component is different and in Worksheet #3, this information is required to determine the grantee share.) Since some estimates may be several years old, updated values should be developed by the project engineer; otherwise, the community can apply EPA cost indices to the original estimates. EPA national average indices are provided in this section, but more accurate regional indices are available in the EPA documents referenced in the footnotes.

Line 201 Enter the construction costs for the wastewater treatment plant including sludge handling facilities. Update the engineering cost estimates to current dollars by using the EPA Small City Conventional Treatment Index.2/ To use the index, multiply the engineer's cost by the ratio of the index value for the current year over the value for the year the engineer made the estimate. The national index values for 1973 through 1981 are:

1/ A complete wastewater treatment system consists of all the treatment works necessary to meet the requirements of Title III of the Act, involving the following: (i) The transport of wastewater from individual homes or buildings to a plant or facility where treatment of the wastewater is accomplished; (ii) The treatment of wastewater to remove pollutants; and (iii) The ultimate disposal, including recycling or reuse, of the treated wastewater and residues which result from the treatment process.

2/ See Appendix A, U.S. EPA, Construction Costs for Municipal Wastewater Treatment Plants: 1973-1978, EPA/43-9-8-0013 (Washington, D.C.: Office of Water Program Operations (FRD-11 - April 1980).

HOW MUCH WILL THE FACILITIES COST AT TODAY'S PRICES?

Worksheet #2
Section A

A. CONSTRUCTION COSTS ESTIMATE

System Component	Cost	Total Cost
• Wastewater Treatment Plant		
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
_____	_____	
Sludge Handling Facilities (Year to be built_____)	_____	_____(201)
• Pump Stations and Force Mains		
_____	_____	
_____	_____	
_____	_____	
		_____(202)
• Interceptor Sewers		
_____	_____	
_____	_____	
_____	_____	
		_____(203)
• Collection Sewers		
_____	_____	
_____	_____	
_____	_____	
		_____(204)
• On-Site Systems		
_____	_____	
_____	_____	
_____	_____	
		_____(205)
• Land Acquisition		
_____	_____	
_____	_____	
_____	_____	
		_____(206)
• Other		
Inspection and Construction Management	_____	
_____	_____	
		_____(207)
• TOTAL CONSTRUCTION COSTS (201 + 202 + 203 + 204 + 205 + 206 + 207)		_____(208)

EPA CONSTRUCTION COST INDEX FOR
SMALL CITY CONVENTIONAL TREATMENT PLANTS

Year	Index	
1973	93	
1974	112	
1975	110	
1976	119	
1977	128	
1978	145	
1979	158	
1980	168	
1981	180	
1982	186	(3rd Quarter)

For example, a 1976 cost estimate of $2,000,000 would be updated to 1981 as follows:

$$\$2{,}000{,}000\ (1976) \times \frac{180}{119} \left(\frac{1981}{1976}\right) = \$3{,}025{,}210\ (1981)$$

Line 202-204 To update the engineer's cost estimates for the pump stations, interceptor sewers, and collection sewers to current dollars, use the EPA Complete Urban Sewer System Index (CUSS).1/

EPA COMPLETE URBAN SEWER
SYSTEM COST INDEX

Year	Index	
1973	100	
1974	110	
1975	123	
1976	132	
1977	143	
1978	154	
1979	175	
1980	185	
1981	202	
1982	218	(3rd Quarter)

Quarterly updates are available from EPA.2/

Lines 205-206 Enter current estimates for on-site systems and land acquisition on lines 205 and 206.

1/ See Appendix A, U. S. EPA, Construction Costs for Municipal Wastewater Conveyance Systems: 1973-1979, EPA 430/9-81-0013 (Washington, D.C.: Office of Water Program Operations (FRD-21) January 1981).

2/ See "Construction Cost Indexes," EPA Office & Water Program Operations, Washington, D.C. or call EPA Regional and State Agency staffs.

Line 207 Enter other costs associated with the construction project such as inspection and engineering costs.

Line 208 Enter the total construction costs on the worksheet (201 + 202 + 203 + 204 + 205 + 206 + 208).

Enter the construction cost estimates onto the Financial Information Sheet.

Instructions for Section B

In Section B, provide estimates of expected operation, maintenance, and replacement costs for the facilities. For each cost category (labor, utilities, etc.) identify, where applicable, the portion of the cost required by each system component.

This detailed format is modeled after the one found in EPA's publication and is intended to encourage a complete review of potential O,M&R costs.[1] A complete review is particularly important since some new plants coming on-line have experienced O,M&R costs that are significantly higher than the original estimate.

Complete the matrix on Worksheet #2 Section B which consists of cost categories running down the left-hand column and system components listed across the top of the page. O,M&R cost estimates for;

- treatment plants,
- pump stations, and
- sewers

may have to be updated by the project engineer or by using EPA cost indices.

OM&R for Wastewater Treatment Plant

Update the engineer's O,M&R cost estimate for the wastewater plant to current dollars using the "EPA O,M&R Plant Index." The index is described in EPA's Analysis of Operations and Maintenance Costs for Municipal Wastewater Treatment and national and regional values are published quarterly by EPA.[1,2]

The national average values for 1974 through 1981 are:

EPA O,M&R PLANT INDEX

Year	Index
1974	164
1975	188
1976	203
1977	218
1978	235
1979	259
1980	294
1981	328
1982	349 (3rd Quarter)

1/ U.S. EPA, Analysis of Operations and Maintenance Costs for Municipal wastewater Treatment Systems, 430/9-77-015 (Washington, D.C.: Office of Water Program Operations, May 1978) page A-38.

2/ Quarterly updates are published in "Index of Direct Costs for Operation, Maintenance, and Repair, Based on Composite 5MGD Plant," Office of Water Program Operations, Washington, D.C.

B. ESTIMATED ANNUAL OPERATION, MAINTENANCE, AND REPLACEMENT COSTS FOR THE PROPOSED FACILITIES

Worksheet # 2
Section B

Cost Categories	System Components: Treatment Plant	Sludge Handling Disposal	Pump Stations	Interceptor Sewers	Collection Sewers	On-Site Systems	Total Costs	
• Labor (Salaries, Fringe Benefits, & Overtime)								
- Operations								
- Maintenance								
- Support Services (Purchasing, Data Processing, Finance, Etc.)								
- Administration								
Total								(209)
• Utilities (Fuel & Power)								
- Electricity								
- Fuel Oil								
- Natural Gas								
- Automotive Fuel								
- Water Service								
- Other								
Total								(210)
• Materials & Supplies								
- Chemicals (itemize)								
- Maintenance								
- Automotive								
- Laboratory								
- Administrative Supplies								
- General								
Total								(211)
• Outside Services								
- Sludge Hauling or Disposal								
- Engineering Service								
- Data Processing								
- Other								
Total								(212)
• Miscellaneous Expenses								
- Insurance								
- Travel & Meals								
- Telephone								
- Training								
- Equipment Rental								
Total								(213)
• Equipment Replacement								
- Process Equipment (e.g., Pumps, Scrappers, Collectors, etc.)								
- Vehicles								
- Minor Miscellaneous								
- Other								
Total								(214)
• Total Operation, Maintenance, and Replacement Costs								(215)

For example, a $250,000 1976 estimate of O,M&R costs for a plant would be updated to 1981 by multiplying the 1976 cost estimate by the ratio of the 1981 cost index to the 1976 index:

$$\$250,000\ (1976) \times \frac{328\ (1981)}{203\ (1976)} = \$404,000\ (1981)$$

O,M&R for Pump Stations

To update the pump station O,M&R costs, use the following EPA cost index values:[1]

PUMP STATION O,M&R INDEX

Year	Index
1974	1219
1975	1317
1976	1401
1977	1490
1978	1660
1979	1884
1980	1967
1981	2107
1982	2178 (3rd Quarter)

Convert past estimates to current dollars by multiplying the engineer's estimate by the ratio of the index values for the appropriate years, and use regional values where available.

O,M&R for Sewers

To update the sewer O,M&R costs, use the EPA O,M&R cost index for sewer lines.[1] National values for 1974 to 1981 are:

SEWER O,M&R INDEX

Year	Index
1974	1160
1975	1249
1976	1354
1977	1461
1978	1573
1979	1745
1980	1876
1981	2091
1982	2200 (3rd Quarter)

1/ U.S. EPA, "Quarterly Indexes of Direct Cost for Operation, Maintenance and Repair of Raw Wastewater Pumping Stations and Gravity Sewers," Office of Water Program Operations, Washington, D.C.

Line 209 Having updated the O,M&R cost estimates, provide labor costs by system component including salaries, fringe benefits, and overtime. Estimate support services and administration (indirect costs) needed for the labor category.

Lines 210-214 For each of the categories listed (utilities, materials, etc.), provide cost data broken down by system components (treatment plant, sludge handling disposal, etc.). In some cases, cost estimates may have to be reviewed with the engineering firm responsible for the original estimate to:

- Expand management costs to reflect new institutional arrangements approved by local officials; and
- Refine other costs based on more recent field data (new plants of similar design may show a need for more chemicals).

Line 215 Total operation, maintenance, and replacement costs is the sum of lines 209+210+211+212+213+214.

Enter the O,M&R values on the Financial Information Sheet.

[redacted]

PURPOSE OF WORKSHEET #3

Worksheet #3 identifies the amount to be borrowed by the grantee and the methods of financing that amount. Total annual costs, which include operations, maintenance, and debt service for the new as well as any existing facilities, are then calculated and a summary of the sources of funds for paying the annual costs is provided.

Instructions for Section A

Section A outlines a method for determining the amount the grantee must borrow to pay for the construction and construction-related costs.

Lines 301-309 Turn back to Worksheet #2, lines 201-207, for the necessary construction cost data. Then give the anticipated amount of the EPA, State, and other shares of the construction costs for each component in the spaces provided. The total grantee share (309) is calculated by subtracting the EPA, State, and other shares from the construction cost for each system component (301-307) and by adding together the results. You should check with your State to determine the level of Federal funding that you will likely receive and include this amount under the EPA share.

Lines 310-315 Construction-related costs include interest paid on construction loans or notes, any repayments to the community's general fund and planning and design costs that exceed the allowance from EPA or State aid. Also include legal, financial, and other fees associated with the sale of bonds, including:

- Preparing the official statement;
- Printing the bonds;
- Advertising the bonds; and
- Underwriter costs.

Another cost might be the funds borrowed by the community and then loaned to households to cover their cost of connecting to the lateral sewer.

Lines 316 - 320 List all sources of front-end financing the grantee will use to reduce the amount to be borrowed. These include:

- Property tax revenues;
- Local funds (reserves) available for the project;

Worksheet #3
Section A

HOW WILL THE FACILITIES BE FINANCED?

A. AMOUNT TO BE BORROWED FOR CONSTRUCTION AND CONSTRUCTION-RELATED COSTS

Grantee Share of Construction Costs

System Component	From Line	Construction Cost	EPA Share	State Share	Other	Grantee Share	
Wastewater Treatment Plant	201	$_____	$_____	$_____	$_____	$_____	(301)
Pump Stations	202	_____	_____	_____	_____	_____	(302)
Interceptor Sewers	203	_____	_____	_____	_____	_____	(303)
Collection Sewers	204	_____	_____	_____	_____	_____	(304)
On-Site Systems	205	_____	_____	_____	_____	_____	(305)
Land Acquisition	206	_____	_____	_____	_____	_____	(306)
Other	207	_____	_____	_____	_____	_____	(307)
Total		$_____	$_____	$_____	$_____		(308)

Total Grantee Share
(301 + 302 + 303 + 304 + 305 + 306 + 307) $_____ (309)

Worksheet #3
Section A

Construction-Related Costs

Interest Paid on Loans and Notes	$_____	(310)
Repayments to Other Funds	_____	(311)
Planning and Design Costs that Exceed Allowance from EPA and State Aid	_____	(312)
Legal, Financial and Other Fees for Issuance and Sale of Bonds	_____	(313)
Other Costs (Identify) _____ _____ _____	_____	(314)
Total Construction-Related Costs (310 + 311 + 312 + 313 + 314)	$_____	(315)

Grantee Contributions

Property Tax Revenues	$_____	(316)
Local Funds (Reserves) Available for the Project	_____	(317)
Prepaid Connection Fees and Betterment Assessments	_____	(318)
Other Sources of Front-End Funding (Identify) _____ _____ _____	_____	(319)
Total Grantee Contributions (316 + 317 + 318 + 319)	$_____	(320)
Amount to be Borrowed (309 + 315 - 320)	$_____	(321)

- Prepaid connection fees and betterment assessments;[1/] and
- Other sources of front-end funding that reduce the amount to be borrowed such as contributions from industry.

Line 321 Calculate the amount to be borrowed by adding the total grantee share (309) and total construction-related costs (315) and subtracting grantee contributions (320) that will be used to reduce the amount to be borrowed.

Return to the Financial Information Sheet and enter the required information.

Instructions for Section B

In Section B, the annual debt service (principal and interest) for each form of borrowing that may be used to finance local costs is added together to obtain a total annual debt service. This information is then carried forward to Section C, where the total wastewater treatment and facilities costs are calculated.

Lines 322-324 For each financing method, identify the dollar amount borrowed, the number of years for which the funds are to be borrowed, and the estimated interest rate in the boxes on 322, 323, and 324.

For each of the methods of financing used by the grantee, find the annual debt service payment. For the sake of simplicity, assume the payments remain constant over the life of the bonds or the loan. To calculate the annual debt service (principal and interest) for each method of financing used, multiply the appropriate capital recovery factor found in the Capital Recovery Table on the bottom of page 39 by the amount borrowed. An example follows:

Amount to be borrowed	$5,000,000
Interest Rate	12%
Maturity	20 years
Capital Recovery Factor	.134
Annual Debt Service Payment (.134 x 5,000,000)	$ 670,000

1/ Betterment assessments are defined as levies made against certain properties to defray the cost of improvements, which are defined as buildings and other attachments or annexations to land.

B. METHODS OF FINANCING THE AMOUNT TO BE BORROWED

Financing Method	Amount Borrowed	Interest Rate	Term of Maturity	Annual Debt Service Payment	
General Obligation Bond					(322)
Revenue Bond					(323)
Loan					(324)
Total					(325)

Capital Recovery Table[1]

Length of Original Maturity	Rate of Interest			
	8 percent	10 percent	12 percent	15 percent
10	.149	.163	.177	.199
15	.117	.131	.147	.171
20	.102	.117	.134	.160
25	.094	.110	.128	.155
30	.089	.106	.124	.152
35	.086	.103	.122	.151
40	.084	.102	.121	.151

[1]See: Eugene L. Grant and W. Grant Ireson, Principles of Engineering Economy (New York: The Ronald Press Company, 1970). Table E provides compound interest factors at various rates.

Line 325 Add the annual debt service payments for each method of financing to determine the annual debt service for the proposed facilities.

Upon completion of this section, enter the required information on the Financial Information Sheet.

Instructions For Section C

Section C calculates two major components of total annual wastewater treatment and facilities costs; operations, maintenance, and replacement costs and debt service.

Lines 326 - 329 These four lines are for information about existing facilities annual costs. If the proposed project represents a new plant, please go to line 330. Otherwise, enter information on the annual operations, maintenance, and replacement (O,M&R) costs for any existing facilities (326), and the annual debt service being paid for the existing facilities (329). (Note: Some existing O,M&R costs may be discontinued as a result of the new project (327) or may be included in new facilities costs and should be subtracted from those existing (326) to determine the net annual O,M&R costs (328).)

Lines 330 and 331 Cost estimates for the proposed facilities can be found on line 215 of Worksheet #2, and line 325 of this worksheet.

Line 332 Add lines 328, 329, 330, and 331 to find the total annual wastewater treatment and facilities costs.

The information from this section should now be transferred onto the Financial Information Sheet.

Instructions for Section D

Section D identifies the sources of funding for the total annual wastewater treatment and facilities costs that were calculated in the previous section. A list of potential revenue sources has been provided in this section, including both operating and non-operating revenues. In some situations, only one source may be applicable.

Line 333 Include here estimated revenues from all sewer service charges paid by system users (both residential and non-residential). The engineer is likely to have estimated these on a cost per gallon or similar basis.

Line 334 Include here estimated revenues from a surcharge on sewer service charges.

C. TOTAL ESTIMATED ANNUAL WASTEWATER TREATMENT AND FACILITIES COSTS

• Existing Annual Operations, Maintenance, and Replacement Costs	$ _____	(326)
• Discontinued Annual Operations, Maintenance, and Replacement Costs to be Discontinued as a Result of Proposed Project	_____	(327)
• Net Existing Annual Operations, Maintenance, and Replacement Costs (Net) (326-327)	_____	(328)
• Existing Annual Debt Service	_____	(329)
• Estimated Annual Operations, Maintenance, and Replacement Costs of Proposed Facilities (215)	_____	(330)
• Estimated Annual Debt Service for Proposed Facilities (325)	_____	(331)
• Total Estimated Annual Wastewater Treatment and Facilities Costs (328 + 329 + 330 + 331)	$ _____	(332)

Worksheet #3
Section D

D. SOURCES OF FUNDING FOR TOTAL ANNUAL WASTEWATER TREATMENT AND FACILITIES COSTS

- Sewer Service Charges $_____ (333)
- Surcharge on Sewer Service Charges _____ (334)
- Special Assessments and Fees
  - Connection Fees ($_____ per connection, number of connections_____) _____ (335)
  - Betterment Assessments ($_____ per_____, number_____) _____ (336)
  - Other (Describe)
    _____
    _____ _____ (337)
- Transfers From Other Funds (Identify)_____
  _____
  _____ _____ (338)
- Other (Identify)
  _____
  _____
  _____
  _____ _____ (339)
- Total Funding $_____ (340)

Lines 335 - 337 Some sources of non-operating revenues are the funds derived from connection fees, betterment assessments, front-foot assessments, and other fees to recover capital costs. In completing this section, the applicant is cautioned to consider here only those funds that are available to pay annual costs. Special assessments and fees that are prepaid by community residents and are used to reduce the amount of borrowing should not be included here because they are not available to pay annual facilities costs.

Line 338 In some instances, there may be transfers from other funds such as property tax revenues from the community's general fund. These sources should be entered here.

Line 339 Other sources of funding should be listed here. Examples include interest on investments and revenues from the sale of by-products and any annual payments made by households who have accepted a loan from the community.

Line 340 Add lines 333, 334, 335, 336, 337, 338, and 339 to calculate total funding. If line 340 is less than line 332, then the total annual costs are not covered by the funding sources and the system will not be self-supporting. In such cases the applicant should review the revenue program and plan to make adjustments so that the system will pay for itself.

DETERMINING THE ANNUAL COSTS PER HOUSEHOLD

Instructions for Worksheet #4

PURPOSE OF WORKSHEET #4

The purpose of this worksheet is to determine the annual costs per household for the community's wastewater treatment facilities.

The determination of annual wastewater treatment and facilities' costs for individual households provides a basis for assessing the financial impact of the project on residential users in the community. In reviewing the project costs, it may be determined that the proposed facilities are too expensive for the affected community's residents.

In order to make this type of judgment, it may be necessary to develop a set of criteria that will identify high-cost projects. States are encouraged to develop specific guidance that can be used to determine if affected households have the ability to pay for a project. Any number of methods may be used, but the decision will be left to the individual states.1/

1/ Examples in use or contemplated by states include:

- The specification of a maximum acceptable household annual charge;
- The existence of certain fiscal warning signals such as too much debt per capita; and
- A limitation on average user costs based on some percentage of the average full valuation of taxable real property.

Previously, EPA offered guidance for assessing the financial feasibility of proposed treatment facilities. A project was considered high-cost if the annual costs per household exceeded the percentage of median household income (MHI) listed below:

- 1.0 percent of MHI when the area's MHI is less than $10,000;
- 1.5 percent of MHI when the area's MHI is between $10,000 and $17,000; or
- 1.75 percent of MHI when the area's MHI is greater than $17,000.

The Agency's previous guidance served as a useful screening technique in the past, and was tied to a fixed grant ratio of 75 percent Federal to 25 percent local funding. As States exercise their discretion to lower the Federal share of grant funding, however, these criteria are becoming obsolete and there is a growing need for planners and decision-makers to look at the entire range of financial information in analyzing financial capability.

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Instructions for Worksheet #4

Line 400 Enter the total estimated annual wastewater treatment and facilities charges (and subcharges) from Worksheet 3, lines 333+334.

Line 401 Enter the nonresidential share of total estimated annual wastewater treatment and facilities charges (and subcharges) here.

Line 402 Subtract line 401 from 400 to find the residential share of the total estimated annual wastewater treatment and facilities charges.

Line 403 Identify the current number of households to be served by the wastewater facilities. You may wish to perform this analysis using the number of households that will exist when the facility is operational or at other future dates.

Line 404 Divide the residential share of the annual wastewater treatment and facilities charges (402) by the number of households (403) to calculate the annual wastewater treatment and facilities costs per household.

Line 405 Other annual costs per household are important to include in this analysis of household burden. Examples include service line installation costs, connection fees, and assessments. Include here costs that are paid to private enterprises (such as a plumber) as well as to the agency operating the system. Some difficulty may be encountered in entering these amounts into the analysis for the following reasons:

1) Not all households in the community will necessarily be affected (For example, connection fees may only be required from households that join the system the first time because of an expansion of the facilities.);

2) Fees and assessments may be variable based on such factors as the length of a homeowner's lot; and

3) Frequently the "other" costs recovered from households are one-time fees or assessments and are not repaid over a period of years.

Given these problems, some suggestions for proceeding with the analysis of annual costs per household follow.

1) Consider the impact on a new user of the system including all potential fees that a homeowner may be required to pay in order to receive wastewater treatment services. Any variable fees should be estimated at their maximum amounts.

WHAT ARE THE ANNUAL COSTS PER HOUSEHOLD?

- **Total Estimated Annual Wastewater Treatment and Facilities Charges (333 + 334)** $_____ (400)
- **Nonresidential Share of Total Annual Wastewater Treatment and Facilities Charges** $_____ (401)
- **Residential Share of Total Annual Wastewater Treatment and Facilities Charges (400-401)** $_____ (402)
- **Number of Households** _____ (403)
- **Annual Wastewater Treatment and Facilities Cost Per Household (402 ÷ 403)** $_____ (404)
- **Other Annual Costs Per Household (Identify)**

  _____

  _____ $_____ (405)

  _____
- **Total Annual Costs Per Household (404 + 405)** $_____ (406)

2) Express the one-time fees and assessments as annualized costs based on the assumption that the new user will not be able to pay these costs without borrowing. To do this, choose an interest rate and a payback period and find the appropriate capital recovery factor (see Table on page 39) then multiply the amount of the one-time fee and/or assessment by factor. As an example, consider the following:

Connection fee	$2,000
Interest Rate	10%
Length of Loan	20 years
Capital Recovery Factor	.117
Annual Cost ($2,000 x .117)	$234

3) If you have an existing sewer system and will be adding new users who will pay additional charges to join the system, it may be desirable to complete Worksheet #4 twice -- once for existing users and once for new users. The cost of collector sewers are usually borne by only those users who abutt the new sewer lines or who may potentially benefit from connecting to them. For communities who are presently sewered but are planning to build new sewers for new users, the cost for these sewers should not be divided among all households in the community. For these situations two household costs should be calculated - one for those presently on sewers and a second for those who may be connected as a result of the project. Note the worksheets assume only one class of users and therefore a second calculation should be made on Worksheet #4.

The number placed on line 405 is the sum of the "other" household costs expressed on an annualized basis.

Return to the last part of the Financial Information Sheet and fill in the required information from this worksheet. The Financial Information Sheet should now be complete except for the answers to the seven questions on the third page of the sheet. To assist in answering these questions, this Guidebook provides a Supplemental Information Sheet which can help answer these questions.

The next part of Chapter III shows the Supplemental Information Sheet and provides Worksheets #5 and #6 which the applicant may use to calculate the figures needed to fill in the Supplemental Information Sheet.

EXHIBIT VI

Supplemental Information Sheet

This Supplemental Information Sheet may be used by your community as the basis for an in-depth evaluation of financial condition. It outlines a method for assessing a community's relative financial strengths and weaknesses.

What Is The Community's Debt History?

A. Bond Ratings

			from line
• Community's most recent general obligation bond rating	Rating _____	Date of rating _____	(500)
• Community's most recent revenue bond rating	Rating _____	Date of rating _____	(501)

B. Outstanding Debt

• General Obligation Bonds	_____	(502)
• Revenue Bonds	_____	(503)
• Gross Direct Debt	_____	(504)
• Direct Net Debt	_____	(505)
• Overlapping Net Debt	_____	(506)
• Overall Net Debt	_____	(507)
• Other Debt	_____	(508)
• New Debt for Other Capital Improvements	_____	(509)

C. Debt Repayment Schedule

• Total Overall Net Debt Due (including new issue) within next 5 years	_____	(515)

D. Debt Limits

• Briefly describe any limits on debt that apply to your community. _____ (516)

• What % of your debt limit is currently used? _____ % (517)

What Is The Community's Financial Condition?

Indicator	Indicator value	Indicator rating: Weak		Average		Strong		from line
1. Annual rate of change in population	____%	Below – 1%	____	– 1% to 1%	____	Above 1%	____	(602)
2. Current surplus as a % of total current expenditures	____%	Below 0%	____	0% to 5%	____	Above 5%	____	(610)
3. Real property tax collection rate	____%	Below 96%	____	96% to 98%	____	Above 98%	____	(611)
4. Property tax revenues as a % of full market value of real property	____%	Above 4%	____	2% to 4%	____	Below 2%	____	(615)
5. Overall net debt as a % of full market value of real property	____%	Above 5%	____	3% to 5%	____	Below 3%	____	(616)
6. Overall net debt outstanding as a % of personal income	____%	Above 12%	____	4% to 12%	____	Below 4%	____	(619)
7. Direct net debt per capita	$____	Above $750	____	$250 to $750	____	Below $250	____	(620)
8. Overall net debt per capita	$____	Above $1,000	____	$450 to $1,000	____	Below $450	____	(621)
9. % direct net debt outstanding due within next 5 years	____%	Below 10%	____	10% to 30%	____	Above 30%	____	(622)
10. Operating ratio	____%	Below 100%	____	100% to 120%	____	Above 120%	____	(630)
11. Coverage ratio	____%	Below 120%	____	120% to 170%	____	Above 170%	____	(631)

PURPOSE OF WORKSHEET #5

The purpose of this worksheet is to profile and summarize the community's debt history. Information presented on this worksheet is used for calculating the financial indicators found on Worksheet #6.

GENERAL INSTRUCTIONS

This worksheet is divided into four sections, each providing background information related to the community's debt history. The sections cover bond ratings, outstanding debt, debt repayment, and debt limits.

Instructions for Section A

Line 500 Give the community's most recent general obligation bond rating and the date of the rating.

Line 501 Give the community's (or its wastewater utility's) most recent revenue bond rating and the date of the rating.

Enter this information on the Supplemental Information Sheet.

Instructions for Section B

Information on the community's debt outstanding is presented in this section. In calculating the amount of debt outstanding, include here only the principal. Do not include any interest.

Line 502 Give the amount of general obligation debt outstanding, including any new debt for the proposed project. These are bonds for whose payment the full faith and credit of the issuer has been pledged and are payable most commonly from real property taxes and other general revenues. Include here any general obligation bonds secured by earmarked revenues that flow outside the general fund (double-barreled bonds).

Line 503 Give the amount of revenue bonds outstanding, including any new debt for the proposed facilities.

Line 504 Gross direct debt is the total amount of general obligation and revenue bonds outstanding. (Lines 502 plus 503).

Line 505 Direct net debt is gross direct debt (line 504) less debt that is self-supporting (revenue bonds) and double-barreled bonds.

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WHAT IS THE COMMUNITY'S DEBT HISTORY?

A. BOND RATINGS

- Community's Most Recent General Obligation Bond Rating _____ Rating _____ Date of Rating (500)
- Community's Most Recent Revenue Bond Rating _____ Rating _____ Date of Rating (501)

B. OUTSTANDING DEBT

- General Obligation Bonds _____ (502)
- Revenue Bonds _____ (503)
- Gross Direct Debt _____ (504)
- Direct Net Debt _____ (505)
- Overlapping Net Debt _____ (506)
- Overall Net Debt _____ (507)
- Other Debt _____ (508)
- New Debt for Other Capital Improvements _____ (509)

Line 506 Overlapping net debt is the community's proportionate share of tax-supported debt of local government units located wholly or in part within the limits of a community which must be borne by property or persons in that community's boundaries. (Chapter II provides guidance on determining a community's overlapping debt.)

Line 507 Overall net debt is the sum of direct net debt and overlapping debt. (lines 505 and 506)

Line 508 Three important debt "obligations" that should be considered in evaluating a community's debt load are outstanding leases, unfunded pension liabilities, and notes having a maturity greater than one year. Insert here the amount of other debt the community has outstanding.

Line 509 Give an estimate of the amount of future planned debt for other planned capital improvements your community is contemplating.

Return to the Supplemental Information Sheet to record the required data.

Instructions for Section C

Section C is used to show how restrictive future debt repayment requirements will be for the community. A low proportion of outstanding debt coming due during the next five years is an indication that a large proportion of future revenues are already commited for debt service, and thus that future financial flexibility will be limited. This does not mean that a community should only borrow funds with short payback periods (such as 5 years) since that could indicate debt service requirements during the payback period that might be greater than can be afforded. In general, the borrowing period should roughly match the lifetime of the facility that the debt is used to finance.

Lines 510 - 514 Give the amount of direct net debt due in each of the next five years.

Line 515 Add lines 510, 511, 512, 513, and 514 to calculate total direct net debt due within the next five years.

Transfer the data onto the Supplemental Information Sheet.

C. DEBT REPAYMENT SCHEDULE

- **Debt Repayment Schedule for Direct Net Debt Within Next 5 Years**

Year 1	$ _____	(510)
Year 2	_____	(511)
Year 3	_____	(512)
Year 4	_____	(513)
Year 5	_____	(514)

- **Total Direct Net Debt Due (Including proposed project) Within Next 5 Years (510 + 511 + 512 + 513 + 514)** $_____ (515)

D. DEBT LIMITS

- **Briefly describe any limitations on debt that apply to your community.** (516)

_____

_____

_____

_____

_____

- **What percentage of your debt limit is currently used?** _____% (517)

Instructions for Section D

Line 516 Briefly describe any constitutional, statutory, or charter limits on debt (other than a referendum requirement) that apply to your community, including:

- A dollar ceiling on the amount that may be outstanding at any one time or the total amount that may be issued;
- A ceiling on the amount that may be outstanding at the time of incurrence, expressed as a percentage of the assessed valuation of taxable property or a percentage of regularly recurring revenues;
- The ratio of past revenues to future debt service (for revenue bonds); and
- Any limitation on the authority to levy taxes for debt service.

The maximum amount of debt that a governmental unit may incur typically is fixed on gross direct or direct net debt.

Line 517 Calculate (or estimate) the percentage of the debt limit currently used. Since there are a number of possible limitations that may apply, no single formula is available.

Summarize and record the information from this section of Worksheet #5 on the Supplemental Information Sheet.

PURPOSE OF WORKSHEET #6

The assessment of a community's financial condition involves the calculation and analysis of 11 key financial indicators. These indicators have been selected because of their importance in explaining the difference in creditworthiness between a community with a strong credit rating and one that has a weak credit rating. However, in evaluating the indicator values for an individual community, it may be necessary to draw other relevant information into the analysis, use judgment, and probe for more facts and explanations. For example, information concerning the closing of the community's only industry is not captured in the indicators' analysis, but such an event could have a very serious effect on the community's financial condition.

GENERAL INSTRUCTIONS

Worksheet #6 provides instructions for calculating the key indicators of financial health. After the indicator values and ratios are calculated, enter them on the Supplemental Information Sheet and determine whether the indicators register a weak, average, or strong rating based on the benchmarks given on the Supplemental Information Sheet.

Instructions for Indicator 1 -- Population Growth

Lines 600-602 The annual rate of change in population tells the analyst whether or not a community is growing strongly, remaining stable, or declining. This information is relevant to the analysis of financial capability because the economic base -- which typically is dependent on personal income, retail sales, and the market value of real property -- rises and falls with changes in population.

To calculate this rate, subtract the community's population five years ago (600) from the current population (601). Divide this number by five and divide the result by the population five years ago (600), then multiply the result by 100. For example,

a.	Population 5 years ago	27,000
b.	Current population	35,000
c.	"b" - "a" = 8,000	
d.	8,000 ÷ 5 = 1,600	
e.	1,600 ÷ 27,000 x 100 = 5.9%	

If the population five years ago is unavailable, pick some other period between 2 and 10 years. Conduct the analysis as described above but change the denominator (5) in Step "d" accordingly.

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Worksheet #6
Indicators 1-4

WHAT IS THE COMMUNITY'S FINANCIAL CONDITION?

INDICATOR 1

- Community Population 5 Years Ago _____ (600)
- Current Year Population _____ (601)
- Annual Rate of Change in Population _____ % (602)

INDICATOR 2

- Property Taxes $ _____ (603)
- Other Revenues $ _____ (604)
- Total Current Revenues (19__) $ _____ (605)
- Operating Expenditures $ _____ (606)
- Debt Service Payments $ _____ (607)
- Total Current Expenditures (19__) $ _____ (608)
- Current Surplus (Deficit) (605-608) $ _____ (609)
- Current Operating Surplus (Deficit) As A Percentage of Total Current Expenditures (609 ÷ 608 × 100) _____ % (610)

INDICATOR 3

- Real Property Tax Collection Rate (Most Recent Tax Year Available 19__) _____ % (611)

INDICATOR 4

- Assessed Value of Real Property $ _____ (612)
- Current Assessment Ratio _____ % (613)
- Full Market Value of Real Property $ _____ (614)
- Property Tax Revenues As A Percentage of Full Market Value of Real Property (603 ÷ 614 × 100) _____ % (615)

Instructions for Indicator 2 -- Operating Surplus (or Deficit)

Lines 603-605 Enter the community's general fund revenues for the most recently completed fiscal year for the categories specified in lines 603 and 604. (Treat as revenues only current receipts that flow from tax sources, charges, and intergovernmental payments. Do not include the receipts of borrowing.) Add these two categories together to obtain total current revenues (605).

Lines 606-608 The community's general fund expenditures for the most recently completed fiscal year are divided among operating expenditures and debt service payments. Put the amounts in 606 and 607, then calculate the total and enter it on 608.

Line 609 The current operating surplus (or deficit) is the difference between total current revenues and total current expenditures (605-608).

Line 610 Indicator 2 is found by dividing the surplus (or deficit) by total current expenditures and multiplying by 100. A positive percentage is a healthy sign whereas a negative percentage should be taken as a financial warning signal. The analysis of a community's surplus (or deficit) should ideally be conducted over a multiyear period to determine if the surplus is getting smaller or the deficit is becoming larger.

Instructions for Indicator 3 -- Property Tax Collection Rate

Line 611 The real property tax collection rate is an indicator of the efficiency of the tax collection system. It is calculated as follows:

$$\frac{\text{Property taxes collected during most recently completed tax year}}{\text{Property taxes levied during most recently completed tax year}} \times 100$$

Generally, low collection ratios are evidence of tax delinquency.

Instructions for Indicator 4 -- Reliance on Property Tax Revenues

Lines 612-615 Indicator 4 identifies if a community is taxing real property extensively and gives some indication of the potential for future revenue growth from this source. Property tax revenues are expressed as a percentage of the full market value of real property.

The first step in calculating this indicator is to enter the assessed value of real property on 612. The current assessment ratio is needed to calculate the full market value of real property since most properties are assessed at some percent of market value less than 100 percent. This is accomplished by dividing the assessed value of real property by the assessment ratio. For example,

Assessed value of real property	$100,000,000
Assessment Ratio (50 percent)	.50
Full market value of real property (100,000,000 ÷.50)	$200,000,000

To calculate Indicator 4 (found on 614), divide the most current year's property tax revenues (603) by the current full market value of real property and multiply by 100.

$$\frac{\text{Current Year's Property Tax Revenues}}{\text{Full Market Value of Real Property}} \times 100$$

Two points should be noted regarding this indicator:

1) A high ratio can be an important indicator of fiscal pressure in the community because sustained growth in property tax revenues will not be feasible -- unless property values are increasing proportionately; and

2) As is the case with several of the other indicators discussed above, the analyst may find it useful to track the value of the indicator for the five year period preceeding the current year.

Instructions for Indicators 5-9 -- Debt Capacity

This section of the worksheet organizes information on the community's outstanding debt in order to calculate several important indicators covering the debt capacity of the community. In supplying information about a community's debt history, the analyst should include any new debt for the proposed facilities.

Line 616 For Indicator 5, divide total overall net debt (507) by the full market value of real property (614) then multiply by 100. Indicator 5 compares the amount of tax-supported debt owed by a community with the full market value of real property in the community, which is a gauge of the community's ability to support additional borrowing.

Lines 617 and 618 Another measure of a community's wealth is personal income which can also be used as a yardstick to judge the community's ability to repay debt. If total personal income is not known, find the per capita income in the community and multiply it by population (617 x 601). If personal income is not available for the current year, update the most recent number using the following formula:

a. Obtain the consumer price index (CPI) for the year for which income information is available.1/	_____
b. Obtain the CPI for the most recent year.	_____
c. Divide "b" by "a" to calculate a CPI ratio.	_____
d. Inflate the per capita income figure by multiplying that amount by the CPI ratio found in "c".	$_____

Line 619 In Indicator 6, overall net debt is compared with personal income. Divide overall net debt (507) by personal income (618) and multiply by 100.

Line 620 For Indicator 7, divide direct net debt outstanding (505) by the current population (601). The amount is another indicator of the burden on the community of the general obligation debt issued by the community.

1/ Consumer Price Index

YEAR	CPI	YEAR	CPI	YEAR	CPI
1969	109.8	1974	147.7	1979	217.4
1970	116.3	1975	161.2	1980	246.8
1971	121.3	1976	170.5	1981	272.4
1972	123.3	1977	181.5	1982	289.1
1973	133.1	1978	195.4		

INDICATOR 5

- Overall Net Debt as a Percentage of Full Market Value of Real Property (507 ÷ 614 × 100) _____ % (616)

INDICATOR 6

- Per Capita Income $ _____ (617)
- Personal Income (617 × 601) $ _____ (618)
- Overall Net Debt as a Percentage of Personal Income (507 ÷ 618 × 100) _____ % (619)

INDICATOR 7

- Direct Net Debt Outstanding Per Capita (505 ÷ 601) $ _____ (620)

INDICATOR 8

- Overall Net Debt Outstanding Per Capita (507 ÷ 601) $ _____ (621)

INDICATOR 9

- Direct Net Debt Due Within 5 Years as a Percentage of Direct Net Debt Due (515 ÷ 505 × 100) _____ % (622)

Line 621 To calculate Indicator 8, divide overall net debt outstanding (507) by the current population (601). The amount is an indicator of the burden on the community of the general obligation debt issued by the community and its overlapping jurisdictions.

Line 622 The purpose of Indicator 9 is to compare the percentage of direct net debt due within five years to total direct net debt outstanding. Divide direct net debt due within 5 years (515) by direct net debt outstanding (505) and multiply by 100. Credit analysis teaches us that an especially long payback should be viewed with caution because the repayment of debt should correspond to the useful life of the facility. This does not mean that a community should only borrow funds with short payback periods (such as 5 years) since that could indicate that debt service requirements during the payback period might be greater than the community can afford.

Instructions for Indicators 10 and 11 -- Analysis of Sewer Enterprise

The indicators presented up to this point are particularly useful in assessing the financial capability of the community if it pays for its facilities with general obligation bonds. The next part of the worksheet introduces two indicators which provide the analyst with information upon which to make an informed judgment about projects funded with revenue bonds. Unlike the analysis of general obligation bonds, the financial condition of the sewer "enterprise" fund is of prime importance in the study of revenue bonds.1/

Lines 623 and 624 Enter the expected operating revenues and nonoperating revenues (grants, interest, and connection fees) for the sewer funds.

Line 625 Add lines 623 and 624.

Lines 626 - 628 With regard to sewer fund expenses, it is particularly useful to single out the operations, maintenance, and replacement expenses and annual debt service on outstanding sewer revenue bonds. Any other nonoperating expenses should be entered on 628.

Line 629 Add lines 626, 627, and 628.

1/ An enterprise fund is established to account for sewer operations that are financed and operated in a manner similar to a private business enterprise -- where the intent of the governing body is that the costs of providing the service be financed or recovered primarily through user charges.

INDICATORS 10 AND 11

- Sewer Fund Revenues (First Year Operational)

Operating Revenues	$ _____	(623)
Non Operating Revenues (Excluding Revenue From Borrowing)	$ _____	(624)
Total Revenues (623 + 624)	$ _____	(625)

- Sewer Fund Expenses (First Year Operational)

Operating Expenses (Excluding Depreciation and Reserves)	$ _____	(626)
Annual Debt Service (on sewer bonds)	$ _____	(627)
Other Non Operating Expenses	$ _____	(628)
Total Expenses	$ _____	(629)

- Operating Ratio (623 ÷ 626 × 100) _____ % (630)
- Coverage Ratio ((625 - 626) ÷ 627 × 100) _____ % (631)

Line 630 Since the issuer must be viewed as an operating entity, the operating ratio is an important indicator of the system's efficiency. It provides a comparison of the community's operating revenues and operating expenses. The ratio is calculated by dividing operating revenues by operating expenses and multiplying by 100 (623 ÷ 626 x 100).

Low ratios are considered a warning because the enterprise must rely on nonoperating revenues, which tend to be unpredictable, to shore up operating shortfalls.

Line 631 Another key ratio in the analysis of an enterprise fund is the coverage ratio. It is calculated by dividing the net revenues of the fund (total revenues minus operating expenses) by the annual debt service on revenue bonds outstanding and multiplying by 100 ((625-626) ÷ 627 x 100).

A low coverage ratio means the enterprise will not be able to generate sufficient revenues to pay all cash expenses. In addition to examining the quantity of revenues, consideration should also be given to the stability and predictability of the "coverage."

Once Worksheet #6 is completed the indicators can be entered in the Supplemental Information Sheet shown on page 49. The Supplemental Information Sheet's lower section -- "What is the Community's Financial Condition" --- allows the indicators calculated in Worksheet #6 to be ranked as strong, average, or weak. The benchmark values shown on the Supplemental Information Sheet for strong, average, and weak values are based on national figures. It may be that State or regional figures are available which might better serve for ranking the community. In particular, property tax and debt indicators display a marked regional variation and State or regional averages for those indicators may be more desirable as benchmarks against which to measure a community's financial condition.

Evaluating Results of the Analysis

As stated earlier, this Guidebook does not provide a fully developed credit analysis, but rather a brief, reliable basis for evaluating your community's ability to assume new debt. The information provides assistance but not the answer to whether your community should undertake the proposed project. Guidance documents are not intended to replace local judgment.

Throughout the Guidebook, we have stressed the importance of evaluating the results, whether positive or negative, in light of your community's particular circumstances. For example, a community that is dependent on a single industry with an uncertain future must look beyond the predominantly positive indicators that exist in the present.

The purpose of guidance is "to point in the right direction." Strong indicators should encourage your community to undertake the project as planned; weak indicators should caution against it, with particular attention paid to reviewing less costly alternatives. Whatever choice your community makes, however, it should benefit from a systematic analysis of financial capability as the project progresses through planning, design, and construction.

APPENDIX A

SELECTED REFERENCES

The following reference materials are recommended for communities that wish to acquire greater knowledge of financial indicators, municipal bond ratings, and sound financial practices.

Groves, Sanford, M. and Godsey, W. Maureen. Evaluation of Local Government Financial Condition. Financial Trend Monitoring System: A Practioners Workbook for Charting Trends and Interpreting Results. Financial Jeopardy: Practices and Policies that Can Affect Financial Condition. Financial Performance Goals: A Guide for Setting Long-Range Policies. Tools for Making Financing Decisions. Series of five handbooks. Washington, DC: International City Management Association, 1980.

Five practical handbooks designed to help local government managers assess their fiscal condition. They focus on three broad variables; external influences such as local demands for resources and the national and regional economy, organizational issues including management practices and policies, and internal financial characteristics (such as revenue and expenditure patterns, debt and unfunded liabilities). For information contact ICMA, 1140 Connecticut Ave., NW, Washington, DC 20036. (202) 626-4600.

Lamb, Robert and Rappaport, Stephen P. Municipal Bonds: The Comprehensive Review of Tax Exempt Securities and Public Finance. New York: McGraw-Hill Book Co., 1980.

The book is written for a broad audience but will be most useful to individuals desiring a general overview of most of the major institutional features of the tax-exempt market. These readers will find the introductory chapters on the growth of the tax-exempt sector, the buyers and sellers of municipal bonds, and the rating agencies, to be informative and generally entertaining. Order Municipal Bonds from McGraw-Hill, Inc., 1221 Avenue of the Americas, New York, NY 10020. (212) 997-1221. $14.95.

Municipal Finance Officers Association. Governmental Accounting, Auditing, and Financial Reporting (GAAFR). Chicago, IL: MFOA, 1980. (234 pp)

First published in 1968, GAAFR receives wide acceptance by governmental accountants and finance officers, other officials of government, and independent practicing accountants as generally accepted accounting principles (GAAP) for State and local governments. Available from: Municipal Finance Officers Association, 180 North Michigan Avenue, Suite 800, Chicago, IL 60601 for $35.00. (312) 977-9700.

Rosenberg, Philip and Stallings, C. Wayne. Is Your City Heading for Financial Difficulty? A Guidebook for Smaller Cities and Other Governmental Units. Chicago, IL: Municipal Finance Officers Association, 1978. (43 pp)

This publication provides local officials with step-by-step procedures for analyses of their government's fiscal condition. It focuses on five major variables that contribute to fiscal decline: Economic vitality declining; Financial independence being lost; Declining municipal productivity; Deferral of current municipal costs to the future; and Ineffective municipal financial management practices. A series of detailed indicators is presented to assess each variable and a methodology for collecting and analyzing data on the variable is outlined. Available from MFOA, 180 N. Michigan Ave., Chicago, IL 60601. (312) 977-9700. $6.00.

Smith, Wade S. The Appraisal of Municipal Credit Risk. New York: Moody's Investor Service, Inc., 1979. (442 pp)

A guide to the credit aspects of municipal bonds and notes. Divides the components of municipal credit evaluation into five areas: (1) Population, wealth and income; (2) Governmental organization and powers; (3) Financial operations; (4) General debt obligations; and (5) Special and limited debt obligations. Available from the publisher, 99 Church St., New York, NY 10007. (212) 553-0300. $14.95.

Standard and Poor's Corporation. Standard and Poor's Rating Guide. New York: McGraw-Hill Book Col, 1979. (417 pp)

In this guide, a major rating corporation outlines the procedures and tools it uses for rating various types of public and private sector securities, including corporate bonds, municipal bonds, and bonds offered by public utilities, hospitals and housing authorities. Major considerations in establishing a rating include economic base analysis, financial analysis, debt levels, and administrative factors. While concerned principally with private sector securities, this Guide provides municipal officials with valuable insight into the rating process. Available for $29.95 from McGraw-Hill Books, Princeton Road, Hightstown, NJ 08520. (212) 997-1221.

APPENDIX B

GLOSSARY OF FINANCIAL TERMS

ACCRUAL BASIS. The basis of accounting under which transactions are recognized when they occur, regardless of the timing of related cash flows.

ASSESSED VALUATION. A valuation set upon real estate or other property by a government as a basis for levying taxes.

CAPITAL OUTLAY. Expenditures which result in the acquisition of or addition to fixed assets.

CASH BASIS. A basis of accounting under which transactions are recognized only when cash changes hands.

COVERAGE. The ratio of net revenue available for debt service to the average annual debt service requirements of an issue of revenue bonds.

DEBT. An obligation resulting from the borrowing of money or from the purchase of goods and services. Debts of governments include bonds, time warrants, notes, and floating debt.

DEBT SERVICE REQUIREMENT. The amount of money required to pay interest on outstanding debt, serial maturities of principal for serial bonds, and required contributions to accumulate monies for future retirement of term bonds.

DIRECT NET DEBT. Gross direct debt less debt that is self-supporting (revenue bonds) and double-barreled bonds (general obligation bonds secured by earmarked revenues which flow outside the general fund).

ENTERPRISE FUND. A fund established to account for operations (a) that are financed and operated in a manner similar to private business enterprises -- where the intent of the governing body is that the costs (expenses, including depreciation) of providing goods or services to the general public on a continuing basis be financed or recovered primarily through user charges or (b) where the governing body has decided that periodic determination of revenues earned, expenses incurred, and/or net income is appropriate for capital maintenance, public policy, management control, accountability, or other purposes. Examples of Enterprise Funds are those for water, gas, electric utilities, swimming pools, airports, parking garages, and transit systems.

EXPENDITURES. Decreases in net financial resources. Expenditures include current operating expenses which require the current or future use of net current assets, debt service, and capital outlays.

GENERALLY ACCEPTED ACCOUNTING PRINCIPLES (GAAP). Uniform minimum standards of and guidelines to financial accounting and reporting. They govern the form and content of the basic financial statements of an entity. GAAP encompass the conventions, rules, and procedures necessary to define accepted accounting practice at a particular time. They include not only broad guidelines of general application, but also detailed practices and procedures. GAAP provides a standard by which to measure financial presentations.

GENERAL OBLIGATION BONDS. Bonds for the payment of which full faith and credit of the issuing government are pledged.

GROSS DIRECT DEBT. The total amount of bonded debt of a government (general obligation bonds plus revenue bonds).

HOUSEHOLD. A household consists of all the persons who occupy a housing unit. A house, an apartment, or other group of rooms, or a single room is regarded as a housing unit, when it is occupied or intended for occupancy as separate living quarters. A household includes the related family members and all the unrelated persons, if any, such as lodgers, foster children, wards, or employees who share the housing unit. A person living alone in a housing unit, or a group of unrelated persons sharing a housing unit as partners, is also counted as a household.

MEDIAN INCOME. The median income is the amount which divides the distribution into two equal groups, one having incomes above the median, and the other having incomes below the median.

MODIFIED ACCRUAL BASIS. A basis of accounting under which revenues are recognized when they become both "measurable" and "available to finance expenditures of the current period" and expenditures are recognized when the related fund liability is incurred.

OFFICIAL STATEMENT. A legal document which summarizes all the salient features of the underlying documents and agreements which support a municipal bond offering. It is considered the disclosure document which presents information that is "material" to the offering. The official statement should contain what a reasonable investor would need to know in making a decision about the issue. Thus this document will usually include a description of the issuer, a description of the security of the bond, a summary of the principal financing documents, any feasibility studies which relate to the security, and any other "key information."

OVERALL NET DEBT. This is the sum of direct net debt and overlapping debt.

OVERLAPPING DEBT. The proportionate share of the debts of local governments located wholly or in part within the limits of the reporting government which must be borne by property within each government. Except for special assessment debt, the amount of debt of each unit applicable to the reporting unit is arrived at by (1) determining what percentage of the total assessed value of the overlapping jurisdiction lies within the limits of the reporting unit, and (2) applying this percentage to the total debt of the overlapping jurisdiction. Special assessment debt is allocated on the basis of the ratio of assessments receivable in each jurisdiction which will be used wholly or in part to pay off the debt to total assessments receivable which will be used wholly or in part for this purpose.

REVENUE BONDS. Bonds whose principal and interest are payable exclusively from earnings of an Enterprise Fund. In addition to a pledge of revenues, such bonds sometimes contain a mortgage on the Enterprise Fund's property.

REVENUES. In general terms, money received in exchange for the delivery of goods and services. A more precise definition is the additions to assets, such as cash or accounts receivable, which: (1) Do not increase any liability, such as a debt obligation; (2) Do not represent a recovery of an expenditure, such as results from a return of defective purchased equipment; (3) Do not represent the cancellation of certain liabilities without a corresponding increase in other liabilities or a decrease in assets, such as forgiveness of a debt; and (4) Are not contributions made to fund businesslike enterprises.

SINKING FUND. A fund established to account for the accumulation of resources for, and the payment of, the principal and interest of general long-term debt.